

We claim:

1. A method of routing in a network, which comprises:

receiving a data packet by a network node in a network;

assigning a first piece of information contained in the data packet to a second piece of information available to the network node;

determining, with the network node, a route for the data packet through the network by determining at least one further network node through which the route passes; and

passing on the data packet to a next network node on the determined route to a destination address.

2. The method according to claim 1, which comprises uniquely determining the route of the data packet from the network node to a defined node.

3. The method according to claim 1, which comprises determining from the first piece of information contained in the data packet at least one detail of a desired transmission selected from the group consisting of a user, a destination address, a service provider, a quality, costs, and a security level.

4. The method according to claim 1, which comprises composing at least one of a source address and the destination address of a plurality of address components.

5. The method according to claim 1, which comprises sending the data packet to a specific entity in the network and processing the data packet at the specific entity, if the destination address contained in the data packet is incorrect.

6. The method according to claim 1, which comprises sending the data packet to a specific entity in the network and processing the data packet at the specific entity, if the destination address contained in the data packet is unknown.

7. The method according claim 1, which comprises passing a response data packet, sent in response to the data packet, from the destination address to a source address through the further network node.

8. The method according to claim 1, which comprises changing a source address in the data packet with the network node on its way from the source address to the destination address.

9. The method according to claim 8, which comprises reversing the step of changing the source address with the network node.

10. The method according to claim 8, which comprises entering in a response data packet, sent in response to the data packet, on its way from the destination address to the changed source address a corrected source address with the network node.

11. The method according to claim 7, which comprises applying a network address translation to at least one of the data packet and the response packet.

12. The method according to claim 1, which comprises accessing a further network having a plurality of access points and the destination address located in the further network, by using only one of the plurality of access points at a time.

CS
13. The method according to claim 1, which comprises providing an information service as the destination address, the information service being accessible by a user only after the user is registered, and providing further information services accessible to the user at one time.

14. The method according to claim 1, which comprises encrypting the data packet.

15. The method according to claim 1, which comprises providing details concerning a source address in a central database, the details including a basic state relating to a usage authorization of services existing in the network.

16. The method according to claim 1, which comprises denying an unauthorized user a use of a service provided in the network by sending a data packet of the unauthorized user to a specific entity in the network and generating an error message with the specific entity.

17. The method according to claim 1, which comprises denying an unauthorized user a use of a service provided in the network by generating an error message upon sending a data packet of the unauthorized user, and sending the error message to the unauthorized user.

18. The method according to claim 1, which comprises:

providing an authorization for a user for using services provided in the network for which the user is not registered;

sending a data packet of the user to a specific entity in the network; and

generating an error message with the specific entity.

19. The method according to claim 1, which comprises charging a user based on at least one criterion selected from the group consisting of a time, a volume, a number of accesses, services used, a type of data packets, and a transmission quality, the at least one criterion being collected as information in the network node during a routing.

20. The method according to claim 1, which comprises charging a service provider based on at least one criterion selected from the group consisting of a time, a volume, a number of accesses, services used, a type of data packets, and a transmission quality, the at least one criterion being collected as information in the network node during a routing.

21. The method according to claim 1, wherein the network includes at least one of a communication network and a data network.

22. An apparatus for routing in a network, comprising:

Sh CB
a processor for receiving, processing, and passing on data packets;

a first storage operatively connected to said processor for storing supplemental information relating to at least one of a user and services existing in the network;

a second storage operatively connected to said first storage for storing administrative information;

a mapper operatively connected to said first storage for determining a mapping of logic computer names on network addresses and vice versa; and

a router operatively connected to said processor for determining a route for each of the data packets, on the basis of information gathered from the data packets and the stored supplemental information, said router determining at least one node through which the route passes.

23. The apparatus according to claim 22, wherein said router determines a unique path to an interchange point by a virtual connection.

Sub
C4

24. The apparatus according to claim 22, including a server accessible by said first storage and including at least one of authentication data, access data, and charge data.

25. The apparatus according to claim 22, including an interface operatively connected to said first storage for modifying the supplemental information.

26. The apparatus according to claim 22, including a helpdesk for offering a help option to the user upon occurrence of an error during an access to one of the services in the network and for sending a message with information about the error to the user.

27. The apparatus according to claim 26, wherein the helpdesk offers an alternative service upon the occurrence of the error during the access.

28. The apparatus according to claim 26, including a user interface for implementing at least one of the access and the help option.

29. The apparatus according to claim 28, wherein said user interface communicates through the use of a suitable protocol.

30. The apparatus according to claim 22, wherein said processor is a routing engine, said first storage is a user management system, said second storage is a service management module, said mapper is a DNS proxy server, and said router is a routing information module.

Handwritten signature: *AdCS*